

CLAIMS

What is claimed is:

- 5 1. A method for controlling transmission of messages from an originator computer system, the method comprising the steps of:
- detecting an outbound message from an originator computer system;
- performing a quota enforcement operation based on a message count and a message limit to produce a message transmission result; and
- 10 performing a selective transmit operation including at least one of:
- i) transmitting the outbound message onto a computer network if the message transmission result contains a transmit value; and
- ii) preventing transmission of the outbound message onto a computer network if the message transmission result contains a no-
- 15 transmit value.
2. The method of claim 1 wherein the step of performing the quota enforcement function includes the steps of:
- comparing the message count associated with an originator identity of the
- 20 outbound message with the message limit assigned to the originator identity of the outbound message to determine an occurrence of a message limit condition, and if the message limit condition occurs, setting the message transmission result to a no-transmit value, and if the message limit condition does not occur, setting the message transmission result to a transmit value; and
- 25 updating the message count associated with the originator identity of the outbound message.
3. The method of claim 2 wherein the step of comparing the message count associated with an originator identity of the outbound message includes the steps of:
- 30 obtaining an originator address associated with the outbound message;

obtaining the originator identity associated with the outbound message by performing an originator identity lookup based on the originator address; and

obtaining at least one message count associated with the originator identity by performing a message count lookup based on the originator identity.

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4. The method of claim 3 wherein:

the step of obtaining an originator address includes retrieving a network address associated with the outbound message from a message connection establishment protocol used to transfer the outbound message from an originator computer system to a recipient computer system;

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the step of obtaining the originator identity includes the step of querying a login database containing mappings of originator addresses to originator identities based on the originator address obtained in the step of obtaining an originator address; and

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the step of obtaining a message count for the originator identity associated with the outbound message includes querying a quota database containing associations of message counts to originator identities based on the originator identity associated with the outbound message; and

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wherein the message count is at least one message count that indicates, for an originator identity, a current number of outbound message transmitted over an elapsed time interval; and

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wherein the message limit is at least one message limit corresponding to a respective at least one message count that indicates, for an originator identity, a maximum number of outbound messages that may be transmitted over a predetermine time interval.

5. The method of claim 2 wherein the step of updating the message count associated with the originator identity of the outbound message includes the steps of:

calculating a total number of recipients for the outbound message; and

incrementing the message count associated with the originator identity by the total

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number of recipients for the outbound message.

6. The method of claim 2 wherein:

the message limit indicates an amount of outbound messages that may be transmitted from the originator computer system over a certain period of time for the originator identity associated with the outbound message; and

wherein the originator identity of the outbound message is indicative of at least one of:

- i) a specific user account operating under control of a computer user;
- ii) a specific message sending user; and
- iii) a specific domain.

7. The method of claim 2 wherein:

the message limit condition indicates if a computer user account associated with the originator identity used to transmit the outbound message is attempting to transmit a number of outbound messages that exceeds the message limit in a predetermined amount of time; and

wherein the message limit condition occurs if the step of comparing determines at least one of:

- the message count exceeds the message limit; and
- the message count is equal to the message limit.

8. The method of claim 2 wherein the quota enforcement operation includes the steps of:

verifying an authenticity of an originator address associated with the outbound message; and

verifying authenticity of at least one recipient associated with outbound message.

9. The method of claim 1 wherein the step of performing a quota enforcement operation includes the step of:

comparing a previous message transmission result with a no-transmit value, and if the previous message transmission decision equals the no-transmit value, performing the step of performing a selective transmit operation.

- 5     10. The method of claim 1 wherein the step of detecting an outbound message includes the steps of:

          searching a quota enforcement list for an originator address associated with the message, and if the originator address associated with the message is contained in the quota enforcement list, performing the steps of performing a quota enforcement operation  
10     and performing a selective transmit operation, and if the originator address associated with the message is not contained in the quota enforcement list, skipping the step of performing the quota enforcement operation and performing the step of transmitting the outbound message from the computer system.

- 15     11. The method of claim 1 further including the steps of:

          authenticating a connection from the originator computer system;  
          recording authentication information in a login database, the authentication information including an originator address assigned to the originator computer system and an originator identity associated with the originator address;  
20     receiving, for transmission to a recipient computer system, the outbound message from the originator computer system;  
          forwarding the outbound message to a quota server to perform the steps of detecting an outbound message, performing a quota enforcement operation and performing a selective transmit operation.

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12. A method for controlling transmission of messages onto a computer network, the method comprising the steps of:

          detecting an outbound electronic mail message to be transmitted onto the computer network from an originator computer system;

- 30     in response to the step of detecting, comparing:

i) at least one message count associated with an originator identity associated with the outbound message;

to

ii) at least one message limit assigned to the originator identity associated with the outbound message that corresponds respectively to the at least one message count;

in order to determine a message transmission result that indicates if the originator computer system operating to transmit the outbound electronic mail message using the originator identity is attempting to transmit the outbound electronic mail message to a number of recipients that exceeds the message limit, and if the message transmission result is a no-transmit value, preventing transmission of outbound electronic mail messages onto the computer network for the originator identity, and if the message transmission result is a transmit value, allowing transmission of the outbound electronic mail message onto the computer network on behalf of the originator identity.

13. The method of claim 12, wherein:

the at least one message count includes a first message count and a second message count;

wherein the at least one message limit includes a first message limit and a second message limit;

wherein in the step of comparing, the first message count is compared to the first message limit to determine if the first message count exceeds the first message limit in which case the message transmission result is set to a no-transmit value; and

wherein in the step of comparing, the second message count is compared to the second message limit to determine if the second message count exceeds the second message limit in which case the message transmission result is set to a no-transmit value.

14. A computer system comprising:

a processor;

a memory system;

a network interface;  
an interconnection mechanism coupling the processor, the memory system and the network interface;  
wherein the memory system is encoded with a quota database and a quota server;  
5 and

wherein when the quota server performs on the processor in the computer system, the processor performing the quota system causes the computer system to control transmission of messages from an originator computer system onto a computer network by performing the operations of:

- 10 detecting an outbound message at the network interface;  
performing a quota enforcement operation for the outbound message based on a message count and a message limit obtained from the quota database in the memory system to produce a message transmission result; and  
performing a selective transmit operation including at least one of:  
15 i) transmitting the outbound message from the computer system if the message transmission result contains a transmit value; and  
ii) preventing transmission of the outbound message from the computer system if the message transmission result contains a no-transmit value.  
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15. The computer system of claim 14 wherein when the processor performs the operation of performing the quota enforcement function, the processor causes the computer system to perform the operations of:

- 25 comparing the message count associated with an originator identity of the outbound message with the message limit assigned to the originator identity of the outbound message to determine an occurrence of a message limit condition, and if the message limit condition occurs, setting the message transmission result to a no-transmit value, and if the message limit condition does not occur, setting the  
30 message transmission result to a transmit value; and

updating the message count associated with the originator identity of the outbound message.

16. The computer system of claim 15 wherein when the processor performs the operation of comparing the message count associated with an originator identity of the outbound message, the processor causes the computer system to perform the operations of:

obtaining an originator address associated with the outbound message detected at the interface;

obtaining the originator identity associated with the outbound message by performing an originator identity lookup in a login database coupled to the computer system based on the originator address; and

obtaining at least one message count associated with the originator identity by performing an message count lookup in the quota database based on the originator identity.

17. The computer system of claim 16 wherein, when performed by the processor:

the operation of obtaining an originator address includes retrieving a network address associated with the outbound message from a message connection establishment protocol used to transfer the outbound message from an originator computer system to a recipient computer system;

the operation of obtaining the originator identity includes the querying a login database containing mappings of originator addresses to originator identities based on the originator address obtained in the operation of obtaining an originator address; and

the operation of obtaining a message count for the originator identity associated with the outbound message includes querying a quota database containing associations of message counts to originator identities based on the originator identity associated with the outbound message; and

wherein the message count is at least one message count that indicates, for an originator identity, a current number of outbound message transmitted over an elapsed time interval; and

wherein the message limit is at least one message limit corresponding to a respective at least one message count that indicates, for an originator identity, a maximum number of outbound messages that may be transmitted over a predetermine time interval.

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18. The computer system of claim 15 wherein when the processor performs the operations of updating the message count associated with the originator identity of the outbound message, the processor further performs the operations of:

calculating a total number of recipients for the outbound message; and

10 incrementing the message count associated with the originator identity in the quota database by the total number of recipients for the outbound message.

19. The computer system of claim 15 wherein:

15 the message limit indicates an amount of outbound messages that may be transmitted from the originator computer system over a certain period of time for the originator identity associated with the outbound message; and

wherein the originator identity of the outbound message is indicative of at least one of:

- 20 i) a specific user account operating under control of a computer user;  
ii) a specific message sending user; and  
iii) a specific domain.

20. The computer system of claim 15 wherein:

25 the message limit condition indicates if a computer user account associated with the originator identity used to transmit the outbound message is attempting to transmit a number of outbound messages that exceeds the message limit in a predetermined amount of time; and

wherein the message limit condition occurs if the processor, when performing the operation of comparing, determines at least one of:

30 the message count exceeds the message limit; and



the message count is equal to the message limit.

21. The computer system of claim 15 wherein the when the processor performs the quota system to perform the quota enforcement operation, the processor performs the

5 operations of:

verifying an authenticity of an originator address associated with the outbound message; and

verifying authenticity of at least one recipient associated with outbound message.

10 22. The computer system of claim 14 wherein the when the processor performs the quota system to perform the quota enforcement operation, the processor performs the operation of:

comparing a previous message transmission result with a no-transmit value, and if the previous message transmission decision equals the no-transmit value, the processor

15 performs the selective transmit operation.

23. The computer system of claim 14 wherein when the processor performs the operation of detecting an outbound message, the processor further performs the operations of:

20 searching a quota enforcement list for an originator address associated with the message, and if the originator address associated with the message is contained in the quota enforcement list, performing the operations of performing a quota enforcement operation and performing a selective transmit operation, and if the originator address associated with the message is not contained in the quota enforcement list, skipping the operation of performing the quota enforcement operation and performing the operation of  
25 transmitting the outbound message from the computer system.

24. The computer system of claim 14 further including:

a remote access server coupled to the receive a connection from the originator computer system;

an authentication server coupled to the remote access server, the authentication server authenticating a connection from the originator computer system when the connection is received by the remote access server, the authentication server including a login extractor that records authentication information in a login database, the authentication information including an originator address assigned to the originator computer system and an originator identity associated with the originator address;

a port redirector coupled to the remote access server, the port redirector receiving, for transmission to a recipient computer system, the outbound message via the connection from the originator computer system and forwarding the outbound message to the interface for receipt by the quota server which, when performed on the processor, causes the processor to perform the operations of detecting an outbound message, performing a quota enforcement operation and performing a selective transmit operation.

25. The computer system of claim 24 wherein the port redirector is a data communications device capable of directing outbound messages based on content contained within the outbound message, and wherein when the port redirector receives an outbound message that is to be subject to message quota enforcement based upon content contained with the outbound message, the port redirector forwards the outbound message to the quota server.

26. A computer system for controlling transmission of messages onto a computer network, the computer system comprising:

a interface for detecting an outbound electronic mail message to be transmitted onto the computer network from an originator computer system;

a quota server, the quota server comparing:

i) at least one message count associated with an originator identity associated with the outbound message;

to

ii) at least one message limit assigned to the originator identity associated with the outbound message that corresponds respectively to the at least one message count;

to determine a message transmission result that indicates if the originator  
5 computer system operating under the originator identity is attempting to transmit an outbound electronic mail message to a number of recipients that exceeds the message limit, and if the message transmission result is a no-transmit value, the quota server preventing transmission of outbound electronic mail messages onto the computer network for the originator identity, and if the message transmission result is a transmit value, the  
10 quota server allowing transmission of the outbound electronic mail message onto the computer network on behalf of the originator identity.

27. A computer program product having a computer-readable medium including computer program logic encoded thereon that when performed on a computer system,  
15 causes the computer system to control transmission of outbound messages onto a computer network, and wherein when the computer program logic is performed on a processor in the computer system, the computer program logic causes the processor to perform the operations of:

20 detecting an outbound message at the network interface;  
performing a quota enforcement operation for the outbound message based on a message count and a message limit obtained from the quota database in the memory system to produce a message transmission result; and  
performing a selective transmit operation including at least one of:  
25 i) transmitting the outbound message from the computer system if the message transmission result contains a transmit value; and  
ii) preventing transmission of the outbound message from the computer system if the message transmission result contains a no-transmit value.

28. A computer program product having a computer-readable medium including computer program logic encoded thereon that when performed on a computer system, causes the computer system to control transmission of outbound messages onto a computer network, and wherein when the computer program logic is performed on a processor in the computer system, the computer program logic causes the processor to perform the operations of:

detecting an outbound electronic mail message to be transmitted onto the computer network from an originator computer system;

in response to the step of detecting, comparing:

i) at least one message count associated with an originator identity associated with the outbound message;

to

ii) at least one message limit assigned to the originator identity associated with the outbound message that corresponds respectively to the at least one message count;

to determine a message transmission result that indicates if the originator computer system operating under the originator identity is attempting to transmit an outbound electronic mail message to a number of recipients that exceeds the message limit, and if the message transmission result is a no-transmit value, preventing transmission of outbound electronic mail messages onto the computer network for the originator identity, and if the message transmission result is a transmit value, allowing transmission of the outbound electronic mail message onto the computer network on behalf of the originator identity.